REMARKS

Reconsideration of this application, as amended, is respectfully requested.

THE ABSTRACT AND SPECIFICATION

The abstract and specification have been amended to correct the minor informality pointed out by the Examiner. Submitted herewith are marked copies of the changed pages to show that no new matter has been added, and full replacement paragraphs are set forth hereinabove. It is respectfully requested that the amendments to the abstract and specification be approved and entered, and that the objection to the disclosure be withdrawn.

THE CLAIMS

Claims 1-9 have been canceled, without prejudice, claims 10 and 11 have been amended, and new claims 12-27 have been added.

More specifically, claims 10 and 11 have been amended to make some minor grammatical improvements. These amendments are clearly clerical in nature and do not relate to patentability and do not narrow the scope of these claims either literally or under the doctrine of equivalents.

New independent claim 12, moreover, has been added to recite the feature of the present invention whereby the light receiving element array includes a plurality of light receiving elements

configured to receive the laser light spectrally resolved by the spectral resolution section such that each emission wavelength of the spectrally-resolved laser light is respectively received by one of the light receiving elements, as supported by the disclosure in the specification at page 19, lines 9-16.

In addition, new claims 13-20 have been added to recite the subject matter of original claims 2-9, respectively, depending from new independent claim 12.

And still further, new claim 21 has been added to recite the combined subject matter of original claims 1, 2 and 9 in independent form, and new claims 22-27 have been added to recite the subject matter of original claims 3-8, respectively, depending from new independent claim 21.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered.

CLAIM FEE

The application as amended now contains 18 claims, of which 3 are independent. Accordingly, it is respectfully submitted that no extra claim fee is required at this time. Nevertheless, authorization is hereby given to charge any fees which may be determined to be required to Account No. 06-1378.

THE PRIOR ART REJECTION

Claims 1, 4-7 and 9 were rejected under 35 USC 102 as being anticipated by USP 6,167,173 ("Schoeppe et al"), claims 1-2 and 4-8 were also rejected under 35 USC 102 as being anticipated by U.S. Patent Publication No. 2000/0050564 A1 ("Birk et al"), and claims 2-3, 8, 10 and 11 were also rejected under 35 USC 103 as being obvious in view of the combination of Schoeppe et al and USP 5,287,367 ("Yanagawa").

These rejections, however, are respectfully traversed with respect to claims 10-11 and new claims 12-27.

Re: New claims 12-20

As recognized by the Examiner, Schoeppe et al discloses a laser scanning microscope wherein fluorescent light from a specimen 5 is incident onto a monitor diode 19 through a filter unit 21. More specifically, in the laser microscope of Schoeppe et al, the filter unit 21 selectively transmits light components having wavelengths falling within a specific wavelength band when the light is received. Accordingly, it is respectfully submitted that the filter unit 21 of Schoeppe et al is very different from the light receiving elements of the present invention as recited in new independent claim 12 which respectively receive light components of laser light having different wavelengths.

In addition, it is respectfully submitted that the monitor diode 19 of Schoeppe et al also differs from the light receiving element array of the present invention as recited in new independent claim 12. This is because the monitor diode 19 of Schoeppe et al is merely capable of receiving a light component or light components having wavelengths falling within a specific wavelength band which have been selectively transmitted by the filter unit 21, whereas the light receiving elements of the present invention as recited in independent claim 12 which receive respective light components of different wavelengths of the laser light.

As also recognized by the Examiner, Birk et al discloses a microscope having a wavelength-selecting and/or intensity-selecting means 7. More specifically, Birk et al discloses a structure wherein an illumination pinhole 10 is provided in the rear of the selecting means 7, with a second lens 9 interposed therebetween, as shown in Fig. 1. Thus, in the microscope of Birk et al, the light whose wavelength or intensity is selected by the selecting means 7 must pass through the illumination pinhole 10, and thus cannot be dispersed into monochromatic components in space. That is, the light cannot be spectrally resolved. In this connection, moreover, it is pointed out that Birk et al discloses in paragraphs [0019] and [1020] that the selecting means 7 is an SP module or a combination of two prisms

with displaceable and width-adjustable slits, or that LCD attenuators may be used. Such structures do not disperse light into light monochromatic components in space; they merely emit light, the wavelength of which is selected, on the same light path. Accordingly, it is respectfully submitted that the selecting means 7 of Birk et al is also different from the light receiving elements of the present invention as recited in new independent claim 12 which receive respective light components of different wavelengths of the laser light.

In addition, it is respectfully submitted that the reference detector 18 of Birk et al also differs from the light receiving element array of the present invention as recited in new independent claim 12 which comprises light receiving elements capable of receiving respective light components of laser light having different wavelengths.

Accordingly, it is respectfully submitted that the present invention as recited in new independent claim 12, as well as new claims 13-20 depending therefrom, patentably distinguishes over the teachings of Schoeppe et al and Birk et al, taken singly or in combination, under 35 USC 102 as well as under 35 USC 103.

Re: New claims 21-27

As pointed out hereinabove, new independent claim 21 recites the combined subject matter of original claims 1, 2 and 9 in

independent form. In this connection, it is noted that original claim 2 was not rejected based on Schoeppe et al and that original claim 9 was not rejected based on Birk et al. And it is therefore respectfully submitted that the present invention as recited in new independent 21, as well as each of new claims 22-27 depending therefrom, patentably distinguishes over each of Schoeppe et al and Birk et al under 35 USC 102.

In addition, it is also respectfully submitted that there would have been no motivation for one of ordinary skill in the art to combine the teachings of Schoeppe et al and Birk et al to achieve the structure of the present invention as recited in new independent claim 21. And it is therefore respectfully submitted that the present invention as recited in new independent claim 21, as well as new claims 22-27 depending therefrom, also patentably distinguishes over the teachings over Schoeppe et al and Birk et al under 35 USC 103.

Claims 10 and 11

Yanagawa has been cited for the disclosure of a wavelength detection/comparison unit 43. It is respectfully submitted, however, that Yanagawa relates to an apparatus for controlling a semiconductor laser which is applied to a CD (Compact Disk) or an LD (Laser Disk), wherein the wavelength-shift of output laser light is detected and the output wavelength is stabilized.

Clearly, Yanagawa relates to an entirely different field of endeavor than the claimed present invention (and Schoeppe et al), and Yanagawa teaches nothing at all with respect to the feature of the present invention as recited in independent claim 10 whereby a controller is provided to receive an output signal of the light receiving element array and to control the laser light for each of a plurality of emission wavelengths.

Accordingly, it is respectfully submitted that teachings of Yanagawa and Schoeppe et al are not combinable in the manner suggested by the Examiner, and that the present invention as recited in independent claim 10, as well as claim 11 depending therefrom, patentably distinguishes over these references under 35 USC 103.

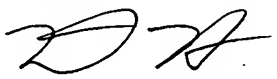
* *

In view of the foregoing, it is respectfully submitted that all of the pending claims (namely, amended claims 10-11 and new claims 12-27) patentably distinguish over all of the cited prior art references, taken either singly or in any combination, under 35 USC 102 as well as under 35 USC 103.

Accordingly, entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 10 and 11 have been amended as follows:

10. (Amended) A laser microscope [,] which [irradiate] irradiates a sample with a laser light [constituted of] that includes a plurality of emission wavelengths through an objective lens, and [detecting] which detects a fluorescent light from the sample, said laser microscope comprising:

an optical fiber configured to guide said laser light;

a collimator lens configured to collimate said laser light guided by the optical fiber;

a beam splitter configured to split a part of said laser light collimated by the collimator lens;

a spectral resolution section configured to spectrally resolve said laser light split by the beam splitter;

a converging lens configured to converge the laser light spectrally resolved by the spectral resolution section;

a light receiving element array configured to receive the laser light converged by the converging lens; and

a controller configured to receive an output signal of the light receiving element array and [controlling] to control said laser light for each of said emission wavelengths.

11. (Amended) The laser microscope according to claim 10, wherein said collimator lens, said beam splitter, said spectral resolution section, said converging lens, and said light receiving element array are formed [into] in one block, and the block is [constituted to be] attachable to [/] and detachable [with respect to] from a main body of said laser microscope.

the laser lights of a plurality of wavelengths are combined, some of the laser lights are split by a beam splitter. Subsequently, a changeable filter selects the wavelength, and an optical detector (first detection element) receives the laser light of the selected wavelength, and detects the intensity of the laser light of the wavelength. Moreover, a laser output or a laser intensity is controlled based on a detection signal of the laser light intensity. It is described that the laser intensity is controlled, for example, by an acousto-optical element (e.g., ~~AOTF~~ an acousto-optical tunable filter (AOTF)) disposed between the laser and the optical fiber.

The Jpn. Pat. Appln. KOKAI Publication No. 2000-206415 discloses a method comprising: controlling an operation in combination with a linear filter ring driven by a control unit, an area selection filter ring, or a filter slider; detecting an output of a selected laser line; driving the AOTF based on the detection signal; and stabilizing the output of the selected laser line, in order to constantly monitor laser radiation connected to a scanning module.

In recent years, in order to further pursue a function of the cell or the tissue, it has strongly been requested to simultaneously detect two or more types of samples (fluorescent light) from the sample, and analyze the function. For example, for fluorescent proteins of different wavelengths, such as a green

ABSTRACT ~~OF THE DISCLOSURE~~

~~There is disclosed a~~ A laser microscope is provided in which a beam splitter extracts a part of a laser light of two wavelengths $\lambda 1$ = 488 nm and $\lambda 2$ = 514.5 nm, a prism spectrally resolves the laser light of the two wavelengths $\lambda 1$ and $\lambda 2$, a two-split photodiode detects intensities of two lines spectrally resolved in this manner, and a controller controls an ~~AOTF~~ acousto-optical tunable filter (AOTF) fixed to an output end of an argon laser based on a detection signal outputted from the two-split photodiode so that respective light intensities of both lines of wavelengths $\lambda 1$ and $\lambda 2$ become constant.